

Biosecurity – the best defense against High Pathology Avian Influenza

Ken Macklin, Joe Hess and Joe Giambrone

Department of Poultry Science, Auburn University

With the concern of Avian Influenza potentially affecting Alabama this Winter/Spring it is important that biosecurity plans are reviewed and if needed updated. Biosecurity literally means the safety of living things. In animal agriculture it means protecting livestock from being exposed to any infectious agent, such as: viruses, bacteria, fungi, mycoplasma, and external/internal parasites. Biosecurity plans can be as comprehensive or simple as you wish to make them. One thing to take into consideration is that a failure in biosecurity can be disastrous. A recent example of this is the failure of biosecurity in the upper Midwest that resulted in over 48 million layers and turkeys being euthanized. The main thing to consider about a biosecurity plan is that infectious agents need a way to enter the farm and the more entry points that are disrupted the less likely an infectious agent will enter the farm. Keep that in mind when designing or following a biosecurity plan. There are four points to a good biosecurity program including: Isolation, Traffic Control, Sanitation, and Recognizing Warning Signs. Below we will go over each one of these points in more detail, starting with Isolation.

Isolation is keeping your animals sheltered from any potential carrier of disease. Carriers can be people, insects, animals, equipment and even dust! Trying to completely eliminate all potential carriers is difficult, but there are several fairly easy steps that can be put into place. To minimize entry into the poultry house by pests, all holes should be plugged and the doors kept closed. To further discourage pests, a 10-foot perimeter around the poultry house should be established, in this area the grass should be kept short and any potential hiding places removed. By doing this, pests will be discouraged from coming near the poultry house, which will remove the temptation for them to enter the poultry house. Also rotating rodenticides and insecticides on a regular basis will help eliminate some of the pests that do come in. In addition to rodents and insects; wild birds, other livestock and pets should be kept outside the 10 foot perimeter, this will further isolate the chickens and further reduce the chance of disease transmission.

Traffic control is essentially minimizing the number of people that enter the farm. This is important, since they may be unwitting carriers of disease causing organisms. Post no trespassing signs; this will let people know that this is your livelihood and that there are certain procedures that need to be followed before entering the poultry farm. When not on the farm, lock doors and gates, this will keep curious people from entering the farm to look around. If people do have to enter the farm, make sure they put on disposable shoe covers and overalls. Additionally they should sign a log book, so that you can keep track of who has been on the farm and where they have been prior to coming on your farm in case there is a problem. Having footbaths and a way to sanitize hands at every poultry house is also essential to minimize the spread of pathogens.

People working on the farm should change clothes and wash up when leaving the farm and when they come back onto the farm.

Sanitation should be performed on all equipment on the farm after every growout. Proper sanitation requires removing all the organic material on the equipment. Using a pressure washer or sprayer will increase the penetration of the sanitizer. In addition, rotating the type of sanitizers two to three times a year will maximize their effectiveness against disease causing microorganisms. When equipment is brought onto the farm it should be thoroughly sanitized, again with a pressure washer. When the equipment is to be taken off of the farm it should be cleaned and sanitized, you do not want to borrow the equipment again. Whoever is getting the equipment should sanitize it again; you can never be too safe. Vehicles that enter the farm should have their tires sanitized. This can be performed using a hand held sprayer filled with sanitizer and spraying the tires or by a pressure washer. By doing this it will reduce the chance that infected dust will enter the farm. When the vehicle leaves the farm, tires should be sprayed again.

The final point for biosecurity is to know your chickens. Walk the house two or more times a day, removing all mortalities, properly disposing of them, and observing the chickens for any warning signs. By observing the chickens, it is possible to catch a disease early on and report it before it becomes too serious. In general, sick birds lack energy; have poor appetites; have watery/green diarrhea; may exhibit sneezing; gasping for air; coughing; nasal discharge; discoloration of the wattles, combs or hocks; swelling on the neck and head or swelling around the eyes; drooping wings; tremors; twisting of the neck or head; lack of movement, etc.

One thing to remember about preparing and following a biosecurity plan is that this is your livelihood and even a mild disease can cost hundreds if not thousands of dollars, so there is no such thing as too much planning when it comes to biosecurity! Remember biosecurity pays!



Aerial photograph showing cleared out perimeter around six poultry houses



Keeping bait stations full and clean is important to a good biosecurity plan. It is also important to rotate the classes of rodenticides so resistance does not develop.



Having dedicated clothing for wearing in the poultry house is a great way to prevent introduction of contaminants.



Plastic boots should be kept on hand for visitors to the poultry house.



Having signs is a good way to let people know that you have a biosecurity plan and that they need to seek out the farmer before entering the premises.



Closed gates and keypads are an excellent way to control access to the poultry farm.



Footbaths are essential for a good biosecurity plan. The footbath should be in a covered environment, free from exposure to rain and other contaminants. This footbath is inside the grower's control room.



Many poultry companies are now incorporating disinfectant sprayers on all service vehicles.



Controlling waterfowl on nearby ponds is essential part of a good biosecurity plan. This grower has placed an alligator decoy in his pond to discourage drop-ins by migrating ducks or geese.